

AMENDMENTS TO THE CLAIMS

The following listing of claims contains all claims that are, or ever were, in the present patent application. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1-5 (canceled).

6 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. identifying a first solvent that is capable of ~~substantially-dissolving~~ a solid form of the polymer;
- c. identifying a second solvent that does not ~~substantially-dissolve~~ the polymer in solid form, but instead merely swells the solid polymer;
- d. providing at least sufficient first solvent to said polymer as to ~~substantially-dissolve~~ the polymer in the first solvent to form a solution;
- e. adding a quantity of the second solvent to the solution, whereupon an entire volume of the solution ~~begins to gel~~ increases in viscosity;
- f. continuing the adding of the second solvent until [[a]] the viscosity of the gel-solution increases to a point where the entire volume of solution has become a the gel that is suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the first and second solvents from the gel, ~~wherein a biologically active agent is mixed with the polymer and first solvent prior to addition of the second solvent.~~

7 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;

- b. identifying a ~~first solvent~~ that is capable of ~~substantially dissolving~~ a solid form of the polymer;
- c. identifying a ~~second solvent~~liquid that does not ~~substantially dissolve~~ the polymer in solid form, but instead merely swells the solid polymer;
- d. providing at least sufficient ~~first solvent~~ to said polymer as to ~~substantially dissolve~~ the polymer in the ~~first solvent~~ to form a solution;
- e. adding a quantity of the ~~second solvent~~liquid to the solution, whereupon ~~[[an]] the entire volume of the solution begins to gel~~thicken;
- f. continuing the adding of the ~~second solvent~~liquid until a viscosity of the ~~gel solution~~ increases to a point where the ~~gel entire volume of solution has transformed to a gel that is~~ suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the ~~first solvent~~ and ~~second solvent~~liquid from the gel, ~~wherein a biologically active agent is mixed with the second solvent prior to addition to the first solvent/polymer solution.~~

8 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. ~~identifying a first solvent that is capable of substantially dissolving a solid form of the polymer;~~
- ~~e.~~ identifying a ~~second solvent~~liquid swelling agent that does not ~~substantially dissolve~~ the polymer in solid form, but instead merely swells the solid polymer;
- c~~[[d]].~~ providing at least sufficient ~~first solvent~~ to said polymer as to ~~substantially dissolve~~ dissolving the polymer in the ~~first~~ a solvent to form a solution;
- d~~[[e]].~~ adding a quantity of the ~~second solvent~~liquid swelling agent to the solution, whereupon ~~[[an]] the entire volume of the solution begins to gel~~thicken in viscosity;
- e~~[[f.]]~~ continuing the adding of the ~~second solvent~~liquid swelling agent until ~~[[a]] the viscosity of the gel solution increases to a point where the entire volume of solution has transformed to a transparent gel is suitable for shape-forming;~~
- f~~[[g]].~~ shape-forming the gel; and

~~g[[h]]. removing the first and second solvents~~solvent and liquid swelling agent from the gel;
~~wherein a biologically active agent is mixed with the gel prior to removal of the first and second solvents.~~

9 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. ~~identifying a first solvent that is capable of substantially dissolving a solid form of the polymer;~~
- c. identifying a ~~second solvent~~liquid swelling agent that does not substantially dissolve the ~~a selected~~ polymer in solid form, but instead merely swells the solid polymer;
- d. ~~providing at least sufficient first solvent to said polymer as to substantially dissolve~~
~~dissolving the selected polymer in the first a solvent to form a solution;~~
- e. adding a quantity of the ~~second solvent~~liquid swelling agent to the solution, whereupon an entire volume of the solution begins to ~~gel~~increase in viscosity;
- f. continuing the adding of the ~~second solvent~~liquid swelling agent until ~~[[a]]~~ the viscosity of the ~~gel solution~~ increases to a point where the entire volume of solution has become a gel that is suitable for shape-forming; and
- g. ~~shape-forming the gel; and~~
- h. ~~removing the first and second solvents~~solvent and liquid swelling agent from the gel;
~~wherein a biologically active agent is incorporated within the pores of the polymeric body after removal of the first and second solvent.~~

10 (Original). The process of any of claims 6, 7, 8 or 9, wherein the biologically active agent is selected from one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses, cells or cellular components.

11-13 (canceled).

14 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. identifying a first solvent that is capable of ~~substantially dissolving~~ a solid form of the polymer;
- c. identifying a second solvent that ~~does not substantially dissolve~~ the polymer in solid form, but instead merely swells the solid polymer;
- d. providing at least sufficient first solvent to said polymer as to ~~substantially dissolve~~ the polymer in the first solvent to form a solution;
- e. adding a quantity of the second solvent to the solution, whereupon ~~[[an]] the~~ entire volume of the solution begins to gel;
- f. continuing the adding of the second solvent until a viscosity of the gel developing from the entire volume of solution increases to a point where the gel is suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the first and second solvents from the gel, wherein the polymer comprises a polyurethane, and further wherein the first solvent comprises tetrahydrofuran, and the second solvent comprises at least one solvent selected from the group consisting of p-dioxane, dimethyl sulfoxide and o-xylene.

15-17 (canceled).

18-27 (canceled).

28 (currently amended). A process for creating a composite body comprising a porous polymeric body ~~using a gel enhanced phase separation technique~~, the process comprising the steps of:

- a. ~~substantially dissolving~~ a selected polymer in a ~~suitable first organic solvent~~ to form a solution;
- b. adding a suitable ~~second solvent~~ liquid to the solution that causes ~~[[an]] the~~ entire volume of the solvent/polymer solution to thicken into a gel;
- c. placing the gel in contact with at least one other material; and

d. removing the ~~first liquid~~ and ~~second solvent~~, thereby leaving a porous polymer and the at least one other material, wherein said porous polymer and said at least one other material are mechanically bound to each other, wherein the selected polymer comprises a polyurethane, and further wherein the ~~first solvent~~ comprises tetrahydrofuran, and the ~~second solvent liquid~~ comprises at least one ~~solvent liquid~~ selected from the group consisting of p-dioxane, dimethyl sulfoxide and o-xylene.

29-32 (canceled).

33 (new). The process of claim 28, wherein the other material is biodegradable.

34 (new). The process of claim 28, wherein the other material provides reinforcement to the porous polymer.

35 (new). The process of claim 28, wherein the other material comprises at least one form selected from the group consisting of reinforcing threads, reinforcing rings, sutures and tacks.

36 (new). The process of claim 28, wherein the porous polymeric body comprises a prosthesis, and the other material aids in attaching the prosthesis to host tissue.

37 (new). The process of claim 28, wherein the other material is a biologically active agent.

38 (new). The process of claim 37, wherein the biologically active agent is selected from one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses, cells or cellular components.

39 (new). The process of claim 28, wherein the composite body is a component of a larger body.

40 (new). The process of claim 7, wherein forming of the polymer gel comprises at least one technique selected from the group consisting of (i) spreading the gel onto an open smooth or textured surface, and (ii) injecting the gel into a mold.

41 (new). The process of claim 8, wherein forming of the polymer gel comprises at least one technique selected from the group consisting of (i) spreading or injecting the gel over a three-dimensional object, and removing the three-dimensional object after removing the first and second solvent from the gel; and (ii) forcing a three-dimensional object into a volume of the gel, and removing the three-dimensional object after removing the first and second solvent from the gel.

42 (new). The process of claim 8, wherein a biologically active agent is provided to the porous polymer by at least one technique selected from the group consisting of (i) mixing with the polymer and first solvent prior to addition of the second solvent, (ii) mixing with the second solvent prior to addition to the first solvent/polymer solution, and (iii) mixing with the gel prior to removal of the first and second solvents.

43 (new). The process of claim 8, wherein a biologically active agent is incorporated within the pores of the polymeric body after removal of the first and second solvent.

44 (new). The process of any of claims 6, 7, 8 or 9, wherein the biologically active agent is selected from one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses, cells or cellular components.

45 (new). The process of claim 8, wherein the gel is placed in contact with a separate body, after which the first and second solvent are removed, leaving the porous polymer mechanically bound to the body.

46 (new). The process of claim 8, wherein the polymer comprises a polyurethane.

47 (new). The process of claim 46, wherein the first solvent comprises at least one solvent selected from the group comprising dimethyl acetamide, n-methyl pyrrolidinone and tetrahydrofuran.

48 (new). The process of claim 46, wherein the first solvent comprises tetrahydrofuran, and the second solvent comprises at least one solvent selected from the group comprising p-dioxane, dimethyl sulfoxide and o-xylene.

49 (new). The process of any of claims 6-9, wherein the polymer comprises at least one polymer selected from the group consisting of polyureas, polyethylenes, polyesters, fluoropolymers and lactic acid polymers.

50 (new). The process of any of claims 6-9, wherein said solvent and said liquid are each selected from the group consisting of acetone; chloroform; p-dioxane; methylene chloride; N, n-dimethyl acetamide; dimethyl sulfoxide; 1-methyl-2-pyrrolidone; tetrahydrofuran; toluene, m-xylene; o-xylene, methyl-ethyl-ketone and benzene.

51 (new). The process of any of claims 6-9, wherein said liquid is selected from the group consisting of acetone, chloroform, p-dioxane, methylene chloride, dimethyl sulfoxide, 1-methyl-2-pyrrolidone, toluene, m-xylene, o-xylene, methyl-ethyl-ketone and benzene